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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/443,447      | 11/22/1999  | JEI-WEI CHANG        | HT98-034            | 7263             |

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[REDACTED] EXAMINER

LAVILLA, MICHAEL E

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

1775

DATE MAILED: 04/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

FD-6

|                              |                                      |                                     |
|------------------------------|--------------------------------------|-------------------------------------|
| <b>Office Action Summary</b> | Application No.<br><b>09/443,447</b> | Applicant(s)<br><b>CHANG ET AL.</b> |
|                              | Examiner<br><b>LA VILLA</b>          | Art Unit<br><b>1775</b>             |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1)  Responsive to communication(s) filed on Feb 28, 2002.

2a)  This action is FINAL.      2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

#### Disposition of Claims

4)  Claim(s) 1-30 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-30 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12)  The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

13)  Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)  All b)  Some\* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

15)  Notice of References Cited (PTO-892) / 18)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 19)  Notice of Informal Patent Application (PTO-152)

17)  Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 / 20)  Other:

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## DETAILED ACTION

### ***Election/Restrictions***

1. In view of applicant's request, the restriction requirement of the Office Action mailed on 9 January 2002 is withdrawn.

### ***Claim Rejections - 35 USC § 112***

2. Claims 1-30 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Omission of elements, critical or essential to the practice of the invention, from the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Applicant, in applicant's summary of invention section and the Table, emphatically states that a buffer layer, having lattice constant and type matching those of the free layer, is a key element in each embodiment of the invention. However, these relationships are not claimed. Hence, the claims, failing to recite these matching properties, do not satisfy section 112, first paragraph.
3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  4. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-14, 16, 17, 21, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - a. Regarding Claim 1, it is unclear what is meant by the reference "18" in the penultimate line.

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- b. Regarding Claims 4, line 3, Claim 17, line 3, Claim 21, line 3, it is unclear what is meant by the phrase "said a non-magnetic conductor spacer layer." Is "a" superfluous? Is this layer different from the layer of the same description previously recited in Claim 1.
- c. Regarding Claims 8 and 25, it is unclear whether the recited materials are alternative choices or simultaneously present.
- d. Regarding Claim 14, line 1, it is unclear what is the antecedent basis of the phrase "spin filtering giant magnetoresistive (GMR) sensor element."
- e. Regarding Claim 16, it is unclear what is meant by the phrase "further includes." What is added to the recitation of Claim 15? Rather, it appears that this claim merely further defines Claim 15.

***Allowable Subject Matter***

- 6. The claimed GMR structures and methods of making GMR structures do not appear to be anticipated or rendered obvious in view of the reviewed prior art.
- 7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is

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(703) 308-4428. The examiner can normally be reached on Mondays and Tuesdays.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.
9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa  
April 16, 2002

